WHAT IS CLAIMED IS:

1. An electronic control unit for transmitting pulsewidth-modulated data signal for communicating with an external unit comprising:

a PWM output unit for generating pulses each of which has a predetermined on-period and a predetermined off-period; characterized by further comprising

a setting unit for executing an interrupt process at an edge time of each of the pulses and setting in the interrupt process a pulse-width-modulated output pattern of the data signal which is to be transmitted thereafter.

- 2. An electronic control unit as in claim 1, wherein: the setting unit variably sets at least one of a cycle period, an on-period and an off-period of a next cycle of the pulses.
- 3. An electronic control unit as in claim 2, wherein: the setting unit sets the cycle period variably for each cycle of the pulses.
- 4. An electronic control unit as in claim 1, wherein:
 the PWM output unit generates an interrupt request between
 two successive pulses; and

the setting unit executes the interrupt process in response to the interrupt request.

- 5. An electronic control unit as in claim 4, wherein:
 the setting unit checks, when the interrupt request is
 generated, whether a response has been received from the
 external unit.
- 6. An electronic control unit as in claim 4, wherein:

 the PWM output unit generates a dummy signal fixed to an

 off level and generates the interrupt request at an imaginary

 edge time of the dummy signal.
- 7. The electronic control unit as in claim 1, wherein:
 the setting unit drives the PWM output unit to transmit
 the pulses in a plurality of stages to the external unit, the
 pulses being codes specific to a vehicle to check whether the
 external unit is authorized;

the setting unit checks whether a response from the external unit has been received at every stage of code transmission; and

the setting unit disables a code transmission in a next stage when no response from the external unit has been received.

8. A communication method between a vehicle and a portable transmitter/receiver unit comprising the steps of:

transmitting, in each of a plurality of transmission stages, a transmission signal from an in-vehicle computer having a pulse-width-modulation output unit for checking authority of the transmitter/receiver;

generating an interrupt request each time an inquiry signal is transmitted; and

variably setting a pattern of the transmission signal in response to the interrupt request by changing at least one of a cycle period, on-period and off-period of a next transmission signal, so that the variably set next transmission signal is generated from the pulse-width-modulation output unit.

9. A communication method as in claim 8, further comprising the steps of:

transmitting a response signal from the portable transmitter/receiver unit in response to a completion of signal transmission of each stage from the vehicle; and

stopping a transmission of transmission signals from the vehicle when no response signal is received from the portable transmitter/receiver unit.

10. A communication method as in claim 8, wherein:

the transmission signal transmitting step transmits a plurality of transmission signals in each stage; and

the pattern setting step sets the pattern of each transmission signal in each stage.